

PATENT

Attorney Docket No.: 44176.00036

## E UNITED STATES PATENT AND TRADEMARK OFFICE

## **CERTIFICATE OF MAILING**

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to Commissioner for Patents, Washington, D.C. 20231, on

Date: September 13,2002

RECEIVED

Technology Center 2600

In re Application of:

Ejaz Ul Haq, et al.

Examiner:

Unknown

Serial No.: 10/086,594

Art Unit:

2651

Filed:

February 27, 2002

Title:

METHOD AND SYSTEM FOR

**DESKEWING PARALLEL BUS** 

CHANNELS TO INCREASE DATA

TRANSFER RATES

Commissioner for Patents Washington, D.C. 20231

## INFORMATION DISCLOSURE STATEMENT PURSUANT TO 37 CFR §§1.97(b)

Sir:

In accordance with the duty of disclosure under 37 CFR §1.56 and pursuant to 37 CFR §§1.97-1.98, Applicants hereby notify the U.S. Patent and Trademark Office of the references listed on the enclosed Form PTO-1449. One copy of each reference cited is submitted herewith.

The present Information Disclosure Statement is being filed more than three months after the filing date but before receiving the first Office Action. Accordingly, no fee or certification is needed.

In re Haq, et al. U.S. Appln. No.: 10/086,594 Page 1 of 2

PATENT

Attorney Docket No.: 44176.00036

The submission of the listed documents is not intended as an admission that any such document constitutes prior art against the claims of the present application. Applicants reserve the right to dispute any of the listed documents as prior art during examination. Furthermore, Applicants do not waive any right to take any action that would be appropriate to antedate or otherwise remove any listed document as a competent reference against the claims of the present application. The submission of this Information Disclosure Statement is not to be construed as a representation that a search has been made or that no other material information may exist.

The Examiner is requested to initial the enclosed Form PTO-1449 and return a copy thereof to the undersigned.

If for any reason an insufficient fee has been paid, please charge the insufficiency to Deposit Account No. <u>05-0150</u>.

Date:

Squire, Sanders & Dempsey L.L.P.

600 Hansen Way

Palo Alto, CA 94304-1043

Telephone (650) 856-6500

Facsimile (650) 843-8777

Respectfully submitted,

Marc A. Sockol, Esq. Attorney for Applicants

Reg. No. 40,823

In re Haq, et al. U.S. Appln. No.: 10/086,594 OIPE Please ype a plus sign (+) inside this box

SEP 1. 6 2002

Sheet

PTO/SB/08A (08-00)

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid QMB control number.

## Substitute for form 1449A/PTO Substitute for form 1449A/PTO

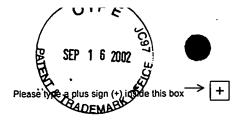
(use as many sheets as necessary)

of

Complete if Known 10/086,594 Application Number February 27, 2002 Filing Date Ejaz Ul Haq First Named Inventor **Group Art Unit** 2651 44176.00036 Technology Center 2600 Examiner Name Attorney Docket Number

		U.S. Patent Document	Name of Patentee or Applicant	Date of Publication of	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	
Examiner Initials *	Cite No.1			of Cited Document		
		3,737,788	Charles E. Lenz	06-05-1973		
		4,247,817	Lawrence D. Heller	01-27-1981		
	4,663,769		Jerome V. Krinock	05-05-1987		
_		4,675,558	Michael J. Serrone, et al.	06-23-1987		
-	<u> </u>	4,745,365	Michael Ugenti	05-17-1988		
		4,782,481	Steven G. Eaton	11-01-1988		
		4,792,845	John L. Judge	12-20-1988		
		4,942,365	James R. Satterwhite	07-17-1990		
		5,023,488	William F. Gunning	06-11-1991		
-		5,105,107	David J. Wilcox	04-14-1992		
		5,142,556	Hideaki Ito	08-25-1992		
		5,243,703	Michael Farmwald, et al.	09-07-1993		
		5,254,883	Mark A. Horowitz, et al.	10-19-1993		
		5,263,049	John M. Winch	11-16-1993		
		5,319,755	Michael Farmwald, et al.	06-07-1994		
		5,327,121	Thomas L. Antles, II	07-05-1994		
		5,355,391	Mark A. Horowitz, et al.	10-11-1994		
		5,363,332	Fumio Murabayashi, et al.	11-08-1994		
		5,378,946	Gerd Reime	01-03-1995		
		5,408,129	Michael Farmwald, et al.	04-18-1995		
		5,432,823	James A. Gasbarro, et al.	07-11-1995		
		5,463,211	Thomas C. Arends, et al.	10-31-1995		
		5,473,575	Michael Farmwald, et al.	12-05-1995		
		5,473,635	Michel Chevroulet	12-05-1995		
_		5,473,757	Daniel W. Sexton	12-05-1995		
		5,498,985	Jonathan J. Parle, et al.	03-12-1996		
		5,512,853	Norio Ueno, et al.	04-30-1996		
		5,513,327	Michael Farmwald, et al.	04-30-1996		
·		5,513,377	Robert S. Capowski, et al.	04-30-1996		
		5,550,496	Alan R. Desroches	08-27-1996		
		5,579,492	James G. Gay	11-26-1996		
. 1		5,590,369	Dana J. Burgess, et al.	12-31-1996		
		5,606,717	Michael Farmwald, et al.	02-25-1997		
· .		5,646,642	Toshikazu Maekawa, et al.	07-08-1997		
		5,706,484	Thomas J. Mozdzen, et al.	01-06-1998		
;		5,706,485	Javed Barkatullah, et al.	01-06-1998		
		5,715,405	Mark T. McClear, et al.	02-03-1998		
-		5,774,354	Shun Ohta	06-30-1998		
		5,796,962	Karl M. Fant, et al.	08-18-1998		
		5,812,875	Michael K. Eneboe	09-22-1998		
_		5,815,734	Sherman Lee, et al.	09-29-1998		
	<del> </del>	5,878,234	Marek Dutkiewicz, et al.	03-02-1999		
	<del>                                     </del>	5,925,118	Juan G. Revilla, et al.	07-20-1999		

|--|



plus sign (+) inside this box + Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute	e for form 1449A/PTC	)			Complete if Known		١
				Application Number	10/086,594	DECA	
INFO	RMATION	DIS	CLOSURE	Filing Date	February 27, 2002	RECE	VED
STA	TEMENT B	Y AI	PPLICANT	First Named Inventor	Ejaz Ul Haq	PF- 4	
				Group Art Unit	2651	SEP 1 8	2002
	(use as many she	ets as	necessary)	Examiner Name	Unknown	Technology	
Sheet	2	of	3	Attorney Docket Number	44176.00036	Technology Co	nter 2600

		1,				
			U.S. PATENT DOCL	JMENTS		
		U.S. Patent Docume	——— Name of Patentee of Applicant	Date of Publication of	Pages, Columns, Lines, Where Relevant	
Examiner Initials *	Cite No. <sup>1</sup>	Number Kind Cod	le <sup>2</sup> of Cited Document	Cited Document MM-DD-YYYY	Passages or Relevant Figures Appear	
		5,928,343	Michael Farmwald, et al.	07-27-1999		
		5,963,070	Darren R. Faulkner	10-05-1999		
	<u> </u>	6,122,331	Jerome Dumas	09-19-2000		
	1	6,151,648	Ejaz Ul Haq	11-21-2000		
	1	6,160,423	Ejaz Ul Haq	12-12-2000		
	<b></b>	6,430,606	Ejaz Ul Haq	08-06-2002		
	†					
	<u> </u>					
	<b> </b>					
	<del>                                     </del>			-		
	<del> </del>					
	<del> </del>	<u> </u>				
	╁───	1				
	<u> </u>	<del>                                     </del>		<del>- </del>		
	<del> </del>			<del>                                     </del>		
	<u> </u>					
		<del></del>				
	<u> </u>			<del> </del>		
	<del>                                     </del>	<del>   </del>				
	1	1				

	FOREIGN PATENT DOCUMENTS								
Examiner Initials*	Cite No.1		For Office <sup>3</sup>	eign Patent Doci	ument Kind Code <sup>5</sup> (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sub>6</sub>
			WO 92/17938	<del>``</del>	Jon P. Wade, et al.	10-15-1992	rigules Appeal		
				:					

	- W - W - W -		
Examiner Signature		Date Considered	

Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
to respond to a collection of information unless it contains a valid OMB control number

Substitute for form 144	9A/PTO			Complete if Known	
	an area cal	DE \	Application Number	10/086,594	
INFORMATI	ON DISCLOSU	KE >	Filing Date	February 27, 2002	DEOCIVED
STATEMEN	T BY APPLICA	NT 3	First Named Inventor	Ejaz Ul Haq	RECEIVED
		6 2002	Group Art Unit	2651	ØED 1 9 3083
(use as ma	ny sheets as negessary)		Examiner Name	Unknown	SEP 1 8 2 02
Sheet 3	of 🚧	\$	Attorney Docket Number	44176.00036	Technology Corner 260
	RAI	EMARIE			

		OTHER PRIOR ART NON PATENT LITERATURE DOCUMENTS	
Examiner Initials *	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T²
		"IEEE Standard for Low-Voltage Differential Signals (LVDS) for Scalable Coherent Interface (SCI)", IEEE Std. 1596.3-1996, March 21, 1996, XP-002106653, Introduction, Contents and pages 1-30.	
		4M x 18 SLDRAM Preliminary Data Sheet 9/97 from SLDRAM Consortium.	
		1M x 16Bit x 4 BANKS DDR SDRAM (Rev. 0.5 June 1997) from Samsung.	
		Kim, et al. "A 640MB/s Bi-Directional Data Strobed, Double-Data-Rate SDRAM with a 40mW DLL Circuit for a 256MB Memory System", ISSCC98 Digest, pp. 158-159, February 6, 1998.	
		Morooka, et al. "Source Synchronization and Timing Vernier Techniques for 1.2GB/s SLDRAM Interface", ISSCC98 Digest, pp. 160-161, February 6, 1998.	
		Lau, et al. "A 2.6 GB/s Multi-Purpose Chip-to-Chip Interface", ISSCC98 Digest, pp. 162-163, February 6, 1998.	
		LVDS I/O (Scalable Coherent Interface Documents) IEEE P1596.3 working-group activity for high-speed signal link interface, 3 pages.	
		Hyper-LVDS I/O Cells (LSI Logic Product Briefs), 2 pages.	
		Crisp, Richard, "Direct Rambus Technology: The New Main Memory Standard", November/December 1997 issue of IEEE Micro.	
		Direct RDRAM 64/72-Mbit (256Kx16/18x16d), "Advance Information" of 64M/72M Direct RDRAM Data Sheet, dated October 2, 1997.	
		Tamura, et al. "PRD-Based Global-Mean-Time Signaling for High-Speed Chip-to-Chip Communications", ISSCC98 Digest, pp. 164-165 & pp. 430-432; February 6, 1998.	
		Griffin, et al. "A Process Independent 800MB/s DRAM Bytewide Interface Featuring Command Interleaving and Concurrent Memory Operation", ISSCC98 Digest, pp. 156-157, February 6, 1998.	
		RamLink, LVDS I/O (Scalable Coherent Interface Documents) IEEE P1596.4 working-group activity for high- speed signal link interface, 3 pages.	
		XILINX® Application Note: "Using the Virtex SelectIO", XAPP 133 October 21, 1998 (Version 1.11), 12 pages.	
		Rambus®, "Rambus® Technology Overview, including Introduction and The Rambus Solution, Copyright February 1999, last modified: February 12, 1999, 5 pages.	
		HAQ, Ejaz, et al.; "Jazio Signal-Switching Technology – A Low-Cost Digital I/O for High-Speed Applications"; IEEE Micro; January-February 2001; pages 72-81.	
		"Jazio Enhancements To Achieve Very High Data Rates Per Pin For Parallel Interfaces"; Jazio High Speed Ditigal I/O Signal Switching Technology; June 20, 2001; 14 pages.	

Examiner	Date	
Signature	Considered	

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>&</sup>lt;sup>1</sup> Unique citation designation number. <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.